

**ABSTRACT OF THE DISCLOSURE**

An apparatus detects arcing faults at a first wavelength. A light source provides modulated light at a second different wavelength and a first frequency. An optical fiber receives the modulated light and gathers ambient light at both

5 wavelengths. A splitter receives and splits the received light into first and second beams. A first filter extracts from the first beam a first filtered beam including the first wavelength. A first photodetector generates a first electrical signal from the first filtered beam. A second filter extracts from the second beam a second filtered beam

10 excluding the first wavelength. A second photodetector generates a second electrical signal from the second filtered beam. A low pass filter extracts from the second electrical signal a third electrical signal representative of light at the second wavelength excluding the modulated light. A comparator generates an arcing signal when the first electrical signal exceeds the third electrical signal.